

Physical Chemistry Seminar

Tuesday,
March 19, 2013

11:00 am

Room 1315
Chemistry Building

Atmospheric Organic Aerosols



Professor John Seinfeld
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Host: Professor Frank Keutsch

Abstract Organic compounds are a significant fraction of atmospheric particulate matter. Secondary organic aerosol (SOA), formed from condensation of low volatility species from the oxidation of gas-phase organic compounds, often dominates the total organic aerosol. Understanding the formation of SOA has proven to be a challenge, owing to the difficulty in identifying and quantifying the gas-phase oxidation chemistry, as well as the complex, multi-generation oxidative chemistry that leads to the aerosol formation. Laboratory chamber data provide the basic understanding of SOA formation. In chamber experiments, specific compounds of interest can be isolated and studied under well-controlled oxidation environments, allowing one to achieve a more detailed and direct characterization of the composition, chemical, and physical properties of the aerosol. Field measurements provide important datasets for understanding the chemistry and life cycles of ambient aerosols. The combination of chamber and ambient data yields important insights into our understanding of aerosol chemistry. Results from chamber experiments and integrated analysis of multidimensional and multiple worldwide aerosol mass spectrometry datasets will be presented, and their implications for the evolution of organic aerosol.

Refreshments will be available prior to the seminar at 10:45 a.m. outside room 1315

Graduate Students may meet with the speaker at 1:00 p.m. in Room 8335